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THE MUSHROOM GROWERS'
ASSOCIATION

MGA

BULLETIN

MAY, 1956

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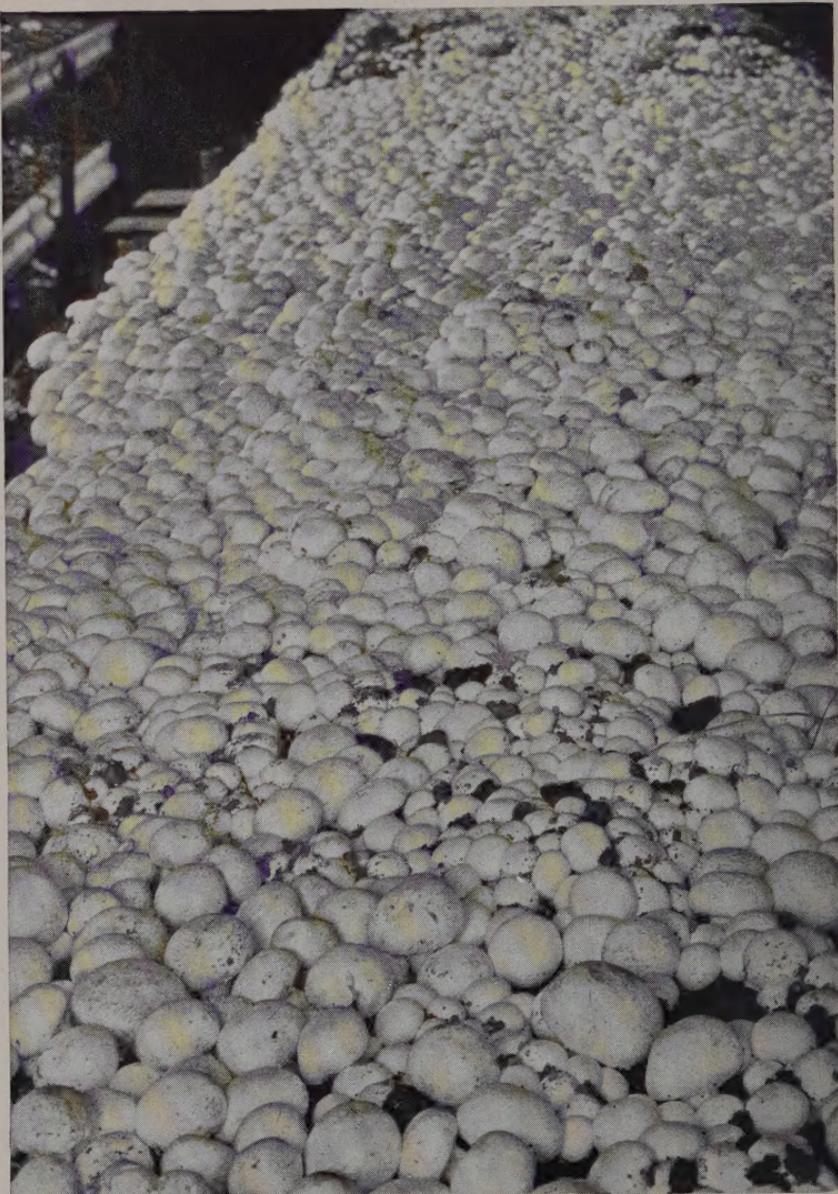


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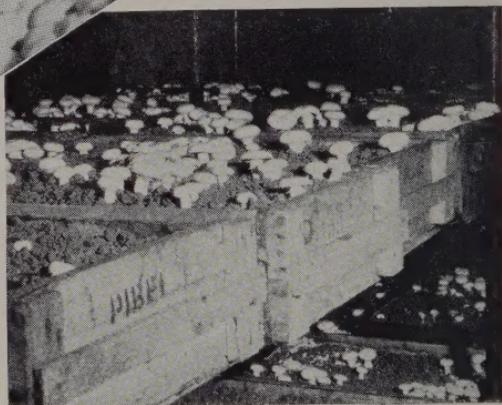
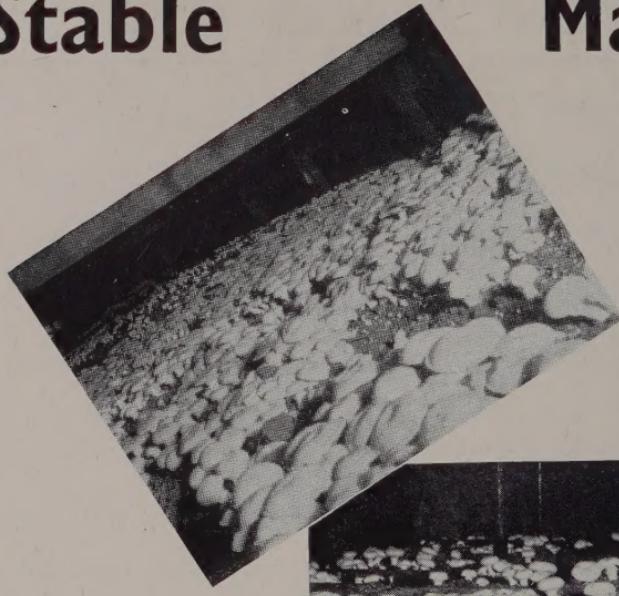
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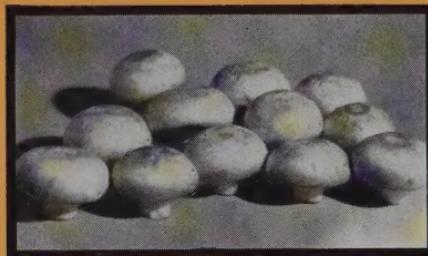
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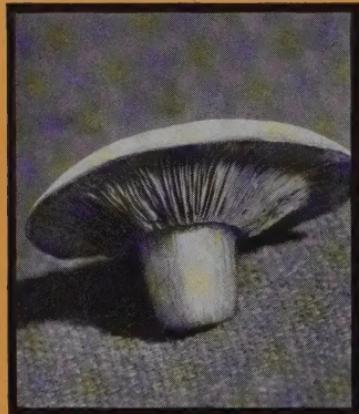
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The
MGA BULLETIN

MAY, 1956
NUMBER 77

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EDITORIAL

PARIS, 1956

It seems that whilst the MGA official party at the International Conference in Paris next month will not be exactly large it will, nevertheless, be far greater than the number attending the 1953 function at Gembloux, Belgium. The fact that, this year, a greater interest than ever is being taken in the proceedings is indeed gratifying to those, not only responsible for the organisation of this year's conference but to those also who, far seeing, sponsored and organised the initial international conference which was held at Peterborough in 1950.

Throughout the entire world the importance of the mushroom industry grows steadily apace. In this country alone production has, it is estimated, trebled in the last ten to fifteen years and goes on increasing. In other countries too, this progress is repeated and in places like Australia and New Zealand where, until a few years ago there was little or no interest in the cultivated mushroom, there is every indication that new farms are substantially increasing. Especially does this appear to be so in Australia.

Mushroom growers in this country, in America and on the Continent have long been aware that through the scientific approach to all problems appertaining to the cultivated mushroom lies the real path to increased production on a given bed area, the Mecca of all growers, commercial or amateur.

In Paris next month will be gathered some of the foremost scientific brains of the industry, together with practical growers of many years experience. Each and all will be anxious and willing to share their knowledge with others—a far cry from the position of only a few years back when growing methods were so jealously guarded, as indeed they are in some countries to this day.

It is right and proper therefore that this Paris Conference should receive world wide support and it is comforting to know that the MGA, through those members who are attending the conference, is supporting a gathering which has already given so much to the mushroom industry in the past and which, without doubt, will confer even greater benefits in the future.

W.R.A.

EXECUTIVE COMMITTEE

At a meeting of the MGA Executive Committee in London on Thursday, 12th April, Mr. Atkins reported on the MGA Research Sub-Committee and also called attention to an apparent increase in attacks on crops by Cecid Larvae. He also reported on the International Conference arrangements.

MGA Chairman, Mr. G. W. Baker, outlined the suggested programme for the Mushroom Exhibition at Eastbourne in November and also suggested that immediate enquiries should be made regarding the 1957 exhibition.

Mr. G. V. Allen spoke of the immediate publicity programme and reported on the successful effort at Selfridges who, he said, were so pleased with results that they maintained their additional counter display of mushrooms for two or three weeks. He also announced that the MGA had arranged a Press Reception at the Women's Press Club in London on 30th May.

As Chairman of the Publicity Finance Sub-Committee, Mr. F. L. Filmer said his committee was pleased with the 85% response from Grower Members. He urged a membership drive as an additional aid to publicity contributions and also reported that an appeal for support had now been sent out to salesmen and others in the industry. Compost Sub-Committee (Mr. W. A. B. Harding), Area Representation (Mr. G. W. Baker) and Membership were also discussed. Mr. Filmer was re-elected as MGA representative on the NFU Glasshouse Committee. Mr. Baker reported appearing, with the Secretary, before the Runciman Committee to answer questions on the MGA report on the Industry. Other matters discussed included MGA rules, suggested increase of the MGA contribution to NFU Headquarters Funds, a proposed increase in office rent following the move in June to the new NFU headquarters in Knightsbridge and rail charges for Scottish members using English markets.

Those present were:—Mr. G. W. Baker (Chairman), Mr. G. V. Allen (Vice-Chairman), Messrs. F. L. Filmer, F. C. Atkins, J. A. Linfield, F. Bleazard, N. R. Cooper, E. A. Gook, W. A. B. Harding, Capt. G. P. Lawrence and R. Thompson.



AREA REPRESENTATION—POSTAL VOTES

Area representation to the MGA Executive Committee and postal votes for committee election were suggested in an article last month by Dr. R. L. Edwards. The Editor would be pleased to receive the views of members on these two suggestions.

Fred. Atkins worries about

THE UNCERTAIN CECID

This much IS certain : Cecid larvae can be calamitous, and from different parts of the country have come tales of fearful depredations.

We have to be a little circumspect about these alarms, of course. Every grower has two or three special fears which "must be investigated immediately." But when a scientist of repute says he regards the Cecid as a major pest on peat-cased compost, and when some of us have seen, as I have seen, large houses cut short in their prime, one with a fine flush of about 20,000 mushrooms literally swarming with Cecid larvae, numbering perhaps a thousand per mushroom, or two million paedogenetic larvae actually on the march in geometrical progression in one house on one farm—well, something must be done.

What was in fact done? A meeting of the MGA Research Committee was held at Littlehampton—where Cecid larvae, incidentally, have appeared on the very first crop to be grown there, I hear. We surveyed what little was known of these "gall midges."

The following day the MGA Executive met and passed the following Resolution unanimously:

"That Cecid larvae constitute a major threat to the Mushroom Industry and should be the subject of intensive study at the Littlehampton Glasshouse Crops Research Institute as soon as possible."

Members, anxious about this pest were circularised within a week, and asked to send samples as proof (or for verification) to their Provincial NAAS Entomologists between 22nd and 28th April.

These Entomologists were forewarned of our action, which was designed to enable a true assessment of the problem to be made.

If no-one sent any samples that week, he was either not worried, or too lazy, or wasn't sure what they were, or unable to find any larvae at the critical moment. For the Cecid is nothing if not uncertain. On 26th March their numbers were formidable. On 19th April, the grower who had lost £300 from one house through their slimy meanderings phoned me to say he couldn't find a single larvaewithin three weeks of seriously contemplating a return to soil casing.

Uncertain? Yes; here yesterday, here to-day, perhaps gone to-morrow. But the damage done is seen in our balance sheets at the end of the year.

Uncertain? There are guileless midges which think it their duty to pupate at once. But the preponderance prefers the pother of paedogenetic paroxysms painted by Palfrey (January Bulletin)—and this can go on and on. Then, unexpectedly, the careful observer comes across pupae and empty pupal cases and flies, one or two on a window, a few on a bed, a hundred on the floor.

Four thoughts occur to me:

(a) If we can provide proof that there is a major epidemic, will any research station heed our pleas for a proper study of the Cecid problem?

(b) Is any insecticide manufacturer prepared to try to do anything to help us?

(c) Do the peat suppliers realise that, if peat were found to be the encouraging factor, or even thought likely to be, one lucrative outlet would promptly be closed to them?

(d) Has any grower or scientist found a solution? And, if so, would he please notify the MGA Secretary?

E. H. PALFREY *describes*

A FLY TRAP

It is, of course, readily understood that a trap can be built to catch an elephant. And indeed, a trap may be made for a tiger, for a rabbit, for a mole, even for a mouse. But trapping flies—surely this is something from the fantasia of a flea circus. And, anyway, even if it were possible, the very idea is retrograde—a step from the chemical present to a cruder age! Have we not BHC and DDT?

But who has not heard the phrase—resistant strain; and how readily it is given as the reason why the flies are still there after dusting. Perhaps All right, then, bring in your miniature gin trap, mechanical swatter, or what have you.

A. C. Davis, an American, wrote in 1938* that the trap described below in 24 hours caught nearly 200,000 flies in a severely infested house. While flies to-day are nothing like flies pre-war, it is quite evident that the trap did a tidy job!

In essence, its bait is light (from an electric bulb), and when near enough, the fly is swept by the air current from a fan into a muslin bag. A 40 watt bulb was found best, because the use of a brighter lamp satisfied the flies at too great a distance, while too weak a light did not attract the flies sufficiently. The only other point of interest is that the fan motor should be totally enclosed so that flies do not bring it to a standstill.

The diagram is self explanatory, and is, in round figures, the size A. C. Davis describes.

*A. C. Davis "Mushroom Pests and their Control." A copy is in the MGA Library.

BEGINNERS' LUCK

(... or was it?—Ed.)

By T. G. FIGGIS (continued from Bulletin No. 76)

CROP SUMMARY (FINAL)

	SPAWN A			SPAWN B		
	Top 12	Middle 11	Bottom 11	Top 9	Middle 9	Bottom row of trays 5 trays per row
First pinheads ..	28	29	30	27	28	30 } days from
First picking ..	36	36	37	36	36	37 } spawning
(3rd Nov.)						
First lb. ..	10	12	14	21*	14	15 } days from
Second lb. ..	29	35	36	55	56*	39 } start of
Third lb. ..	57	65	75	87	99	85 } picking
Fourth lb. ..	101	101	115	—	—	—
YIELD—						
4 weeks..	1.91	1.79	1.49	1.26*	1.47	1.49
8 weeks..	2.92	2.68	2.40	2.09	2.02*	2.31
12 weeks..	3.75	3.61	3.34	2.95	2.74	2.98
16 weeks..	4.17	4.16	3.93	3.34	3.18	3.52 } pounds
20 weeks..	4.54	4.59	4.49	3.69	3.61	3.85 } per sq. ft.
Final (22)	4.65	4.72	4.65	3.78	3.72	4.02
Best tray ..	5.08	5.34	5.31	4.27	4.20	4.21
Worst tray ..	4.37	4.05	4.19	3.13	3.38	3.61
†Per ton manure (Final average) ..	675	685	675	548	539	583 pounds of mushrooms

Mushrooms picked daily from each tray and weighed to \pm 0.1 oz.

All weights are of healthy mushrooms without stalks

Approximately 80% of crop picked as "flats"

*Hard gill 'infection' started 1st flush top row appearing later on middle row.

†Based on estimate of 145 sq. ft. tray area per ton (5½" compost)

Comments

1. Spawn A was consistently superior to Spawn B for the physical conditions existing. Even Spawn B bottom row (not affected by "hard gill") gradually fell behind Spawn A bottom row. The best Spawn B tray (4.27 lb. sq. ft. @ 22 weeks) was 8% below the *average* Spawn A output from the same level.
2. House temperature gradient (from top row to bottom row) has an important affect on rate of production. Continuous forced air circulation or possibly floor heating would be required to remove this influence satisfactorily although, in this crop, its effect was later reduced by raising the house temperature at the risk of disease and 'leggy' mushrooms in the top row.
3. At all levels Spawn A boxes at the end of the house near the heater (and opposite the air inlet) produced the lowest results. In the

next crop it is proposed to shield the heater and divert fresh air upwards in the enclosure.

4. Despite good wall insulation ($U=0.15$ approx.) winter conditions create an appreciable (and almost certainly beneficial) internal circulation down the walls of the house. This results in some "drying out" on the ends of trays near the walls. It is proposed in future to waterproof one end of all boxes with bitumastic paint or "Synthapruff."

5. No consistent difference in cropping was observed between trays cased $1\frac{1}{2}$ " thick, or those cased at only 1". Nor was there any consistent yield difference between those cased with peat/chalk and those cased with a peat/chalk/sand mixture. The latter, however, dried out more quickly and sometimes produced "light" mushrooms below average size. I am of the opinion that one-third of sand by volume is too much, at least from a practical watering angle.

6. Several trays were overfilled to approx. 6" and several under-filled to about 5". All these trays gave a yield respectively above and below the average yield of their row.

7. Unfortunately it was not practical thoroughly to mix the whole finished compost pile before filling nor were trays filled with an exactly similar weight of compost. In the circumstances the max./min. yields from trays in the same row with similar spawn all showed a satisfactory consistency of about $\pm 14\%$ (1 tray excepted).

8. Growers will agree that good 1st and 2nd flushes are essential to a high final yield. Spawn A top row averaged 0.64 and 0.76 lb. per sq. ft. respectively on 1st and 2nd flushes, the first lb. being produced in 10 days.

9. No apology is made for keeping the house in crop for so long a period as 22 weeks. Diseases and pests were still almost negligible and, frankly, I wished to record that magical 5 lb. per sq. ft. figure (on trays S.M.!) as I was well aware, for various reasons, that I might never have the chance again. The follow-on crop will be picked during June/September and summer problems of ventilation and temperature will provide an "interesting study."

Management. The first four flushes were taken with a room temperature kept as close as possible to 60° F. on top row. In winter conditions there is an average difference of $1\frac{1}{2}-2^{\circ}$ F. between each row. After about 5 weeks the top row temperature was raised to $62^{\circ}/63^{\circ}$ average to improve bottom row output. The fan was run in daytime during most of the first 2/3 flushes. Unfortunately the air duct system was unfinished and was, therefore, draughty. With reduced cropping by the third flush I felt it reasonable to rely entirely on natural circulation. Humidity was maintained as near 80/85% as possible at top row, corresponding to 90/95% for bottom row. A $\frac{1}{2}$ gallon adjustable drip container feeding on to the heater near the fresh air inlet gave a measure of Heath Robinson humidification—aided by spraying the gangway. Watering was done as judged necessary about 3 times a week—no water being applied to boxes past the button stage. Trashing was performed after clearing a box of mushrooms. All butts were removed,

also most undeveloped buttons or pinheads—these are usually in a state of imminent mortality or suspended animation due to picking damage and complete exhaustion after each flush. A few boxes had merged flushes, but generally flushes were definite and clear at all stages of the crop. New "soil" was used for trashing the first 3 flushes. Later flushes received little new "soil" and were largely "levelled" but always adequately trashed.

Pests. I believe the Peak Heat left a clean house. At no time during the crop (or on the "turn-out") was I able to find any eelworm, mites, larvae, etc. Obviously a few flies entered the house in October when the new grower went in to worry about the spawn run, watering, etc., but the record was four flies in one day seen later during picking. Malathon Aerosol rapidly reduced this "infestation," and was used weekly until about the eighth flush, after which no fly was seen.

DDT and BHC Lindane smokes were used regularly during spawn run and early in the crop. Early hard gill "infection" seriously reduced yield in fully half the spawn B boxes. I am of the opinion this may have been induced by over-wet casings, as the boxes in question partly recovered when the casings were allowed to dry out somewhat. Without exception, however, Spawn A "liked" a damp casing, and sometimes produced better quality mushrooms. Spawn A flats often had pink gills and weighed heavy. Generally speaking most mushrooms were of good size and excellent quality right to the end of the crop—local shops paid me 4/6 to 5/- per pound for flats and returned the baskets.

Disease. 75% Zibimate dust was applied regularly after casing. Apart from the hard gill trouble with Spawn B the first diseased mushrooms appeared about the seventh flush (top and middle row only—possibly influenced by temperature). Probably due to the new clean house, aided by Zibimate and negligible pests, the number was very small. Some mushrooms had bacterial pit and a few flats a "bacterial infection" attacking the gills.

In conclusion may I express my thanks to local grower friends Guy Reed and John Stevens, who have so freely given me the benefit of their advice and practical experience. What a "time wasting" but entirely fascinating hobby this mushroom business is!

OBITUARY

The death has occurred of Miss Dorothy M. Cayley, a former Vice-President of the British Mycological Society and author of several papers on the spores of the cultivated mushroom, spore germination and experimental spawns.

We also regret to record the death of Mr. H. Wyndham-Jones, Llanfoist, Nr. Abergavenny, Mon., who for some years has been an Associate Member of the MGA.

A BIENTÔT!

Paris in the Spring in June, anyway, this year! Did you know that nearly all the men and women who are working on mushroom problems in Europe will be there? It is almost too late, maybe IS too late to take advantage of the cheaper rates arranged by our Secretary Alderton in Londres and host Secretary Dekeirel in Paris.

Let us imagine you *are* going to the Conference. The MGA party will meet in London and travel together by train to Newhaven. We shall, I understand, all go over to Dieppe on the same boat. Some of us plan to spend a portion of our time abroad in a certain place. If you have not really had the crops you have boasted of, forget it. If you have had Cecid trouble, let us talk it over, in the congenial atmosphere peculiar to a cross-Channel steamer.

You don't speak French so good? Nor I. We must have a lesson. If it's a *caisses* of argument v. shelves, the other word is *étages*. And the reason the final s is rarely pronounced is simply that Paris sounds like Pree. We don't sound the final s in London, either.

The actual "work" at the Conference requires no linguistic facility, for someone within hailing distance will speak English, and all the lectures will be in English or simultaneously translated into English through headphones. It is out of school which can cause embarrassment.

My advice, based on innumerable predicaments, is to carry a card measuring 8.5 × 5 centimetres approximatively, bearing certain essentials such as your hotel's name and address and your room number in French, and three major queries:

OO-ALE-TWARLET?

COM-BE-AN(G), stopping short before actually sound the G?
KEL-ER-A-TEEL?

I have found few impasses to which one of these cannot provide the key. Posed at the same moment, they reveal at once the whereabouts of the one place which must not be missed, how much it will cost you, and when it is time to go to bed. Si vous parlez français, that is

And carry these figures in your head; you'll find them invaluable. WE peak heat at 55 degrees *Centigrade*, run our spawn at 25 and crop at 15 : SANK-ONT-SANK, VANT-SANK and KANZ.

And a pocket dictionary, unless you have a phrase-book which works!

F.C.A.

CORRESPONDENCE

Mr. Middlebrook's information (*Re Pinheads No. 49*) is quite correct. Manure used as a base for a mould and covered with a layer of sand provides a porous centre and allows the gases given off by the molten metal to disperse quickly. If the foundry could be persuaded to purchase the spent compost instead of new manure a satisfactory arrangement could be reached all round. I thought you might be interested in my comments.

IVOR HEWETT.



At the Farm Walk:—Left to right, Mrs. Baker, Mrs. Ady, Mrs. Jones, Mrs. Bleazard, Miss Joyce Bleazard, Miss Valerie Baker and Miss Elizabeth Cork

EELWORM DISCUSSED AT SURREY FARM WALK

Visitors to a farm walk held at Cranleigh, Surrey, on Saturday, 14th April, included Mr. F. W. Toovey, Director-Designate of the Glasshouse Crops Research Institute at Rustington, Littlehampton.

After tea which followed the farm visit, Mr. G. W. Baker, MGA Chairman, introduced Mr. Toovey.

The farm walk took place on the farm of Messrs. J. Ady & Co. Ltd. where Mr. Jack Ady, grower of five years standing, has some 20,000 sq. ft. of shelf beds in ten modern houses.

No fewer than 167 people attended this walk, organised by the Kent, Surrey and East Sussex Area Committee.

The company assembled in the spacious composting shed where Mr. Ady was introduced to members, etc. After the tour of the farm Mr. Ady answered a barrage of questions. Perhaps one of the most interesting features of the growing methods on this farm is provided by the regular use of copper sulphate which is added to the compost at the last turn as a preventative against Mat and Truffle. Mr. Ady said he had been troubled considerably with attacks before using copper sulphate but had no trouble at all since. A medium manure is the basis of the compost, turned three times over a twenty-one day period. Beds are five to six inches deep, moist spawn is used and a mixture of chalk and peat (equal parts volume) makes up the casing material. Beds are spawned with the bed temperature 90° F. Houses are cropped for nine weeks with three crops a year taken. A most thorough programme of hygiene takes place after each completed crop. Mr. Ady believes in taking no chances whatsoever with a disease build up and, so far, his farm has been practically disease free.

For the discussion which followed tea, Mr. G. W. Baker presided, with the panel made up of Miss Gandy and Mr. P. Flegg (formerly of the MRA, Yaxley and now at the Glasshouse Crops Research Institute), Messrs. J. Ady, G. V. Allen, R. Thompson, A. J. Berry, H. F. Barton and A. DeB. Hovell.

Asked about copper sulphate Miss Gandy said that at Yaxley it did not give control every time but it did in a great many cases. Mr. Ady said it was standard practice with him. He believed it did retard the mycelium run slightly. To a question about the use of activators with heavy horse manure Mr. Thompson said he used it pretty heavily and was obtaining a better compost than ever before. Mr. Allen used dried blood at stacking and other activators later—result, a consistent compost.

Mr. Flegg said activator was added mainly to increase nitrogen. There was no doubt it was a good thing, especially for light racing stable manure. There was obviously a point at which the use became uneconomic but he couldn't say what that point was. Certainly at Yaxley increased yield was obtained with increased activator. Mr. Barton said he used it and liked plenty of heat. He judged the need of activator by each individual compost. Mr. Sampson said with short composting a grower might run into a lot of trouble if too much as added.

Is there any connection between La France and eelworm? Miss Gandy referred to the difficulty in identifying La France and said she had certainly found no connection with eelworm. Neither was there any connection with "Lighthouse" mushrooms. Miss Gandy later added that, in theory, peak heating to 140° F. killed the eelworm, but the difficulty was in obtaining this heat through all the compost. If this was not obtained the trouble would start again. She said that, at Rothampstead, a count of eelworm in 100 grams (roughly $\frac{1}{4}$ lb.) of compost gave 600,000.

Mr. Ady said he sometimes peak heated even up to five days. If there was any trouble after peak heating it probably came in the casing material. Mr. Hovell said he used steam and formaldehyde to clean trays and boards. Mr. Thompson "had no trouble with cecids once I get an air temperature of over 130° F.—and that takes some doing." Mr. Baker "boiled everything" to cure troubles at Broadham. Mr.



G. W. Baker (*MGA Chairman*), J. Ady ("Mine Host")
and a group of visitors

Bleazard said his trouble was red pepper mite. He peak heated to 140° F. and could not get rid of them. Mr. Berry pointed out that, according to Dr. Sinden, this mite lived on another mould and did not harm mushrooms.

When it was suggested from the audience that field mushrooms tasted better than cultivated ones there was a lively discussion. Mr. Barton thought it was "a complete fallacy." Mr. Flegg said that in America a panel as a whole failed to distinguish the difference. Mr. Thompson thought it "a matter of ripeness." Mr. Hovell said that after a 5 a.m. walk "everything would taste better." Mr. Berry voted for "freshness."

After the discussion thanks were expressed to Mr. and Mrs. Ady and to those who had assisted with the arrangements.

SHORT AMERICAN COURSE PENNSYLVANIA : 9TH—12TH JULY

Anyone over 16 years of age who is interested in growing mushrooms commercially is invited to attend a Short Course at the Pennsylvania State College of Agriculture from Monday to Thursday, 9th to 12th July. The number enrolled will be limited to 200, and the registration fee ten dollars.

There are growers in Europe who are waiting for the opportunity and for an excuse like this to visit the States, and for them it is unfortunate that this Course follows so closely the Paris Conference. We must be content this time with the report we hope to publish in this Bulletin written by Dr. L. R. Kneebone, who is in charge of mushroom research at State College. Just to tease us here in Europe, here are the main items on the programme:

- L. R. KNEEBONE & E. L. MAREK: *Diseases, Weed Moulds and Competitors*; and *Disease Control* (sanitation and cultural practices).
- D. E. H. FREAR, T. T. AYERS & KIRBY: *Disease control* (Chemical).
- C. A. THOMAS: *Animal Pests*.
- W. A. LEE: *Economics of Merchandising*.
- M. E. JOHN: *Sources of Merchandising Appeals*.
- H. B. BYLUND: *Recent Merchandising Efforts*.
- A. C. RICHER: *Know Your Soils*.
- L. C. SCHISLER: *Influence of the Casing Layer*.

Several tours are included. V. B. Staller will conduct the party round the Chef Boy-Ar-Dee plant at Milton, and at the College the production of hay for synthetic compost will be explained by J. B. Washko, while L. C. Schisler will take delegates over the mushroom houses.

There will be an informal conference on the first evening, and on the Wednesday evening Dr. W. L. Henning, Secretary for Agriculture, Commonwealth of Pennsylvania, will be the guest speaker at a banquet.

The Course sounds very workmanlike and useful, and we wish it the success it deserves. Please send us a full report of all the papers,
Dr. Kneebone!

F.C.A.

PINHEADS

83. Ref. Bull. 76, p. 125. It's a matter for posterity to decide whether Samuel Pepys was a better man to follow than Fred. (C. Atkins). Sorry, Mr. Atkins. Sorry, Dr. Edwards. Sorry, above all, Mr. Kind Considerate (Last-word?) Editor.

84. I applied for help from the Government Loan Scheme for Fuel Saving Equipment when I decided to change over from coal to oil firing. Nothing doing! I wasn't surprised, as I'd been told that very few are offered this much-advertised assistance, but I *was* surprised to see the letter of refusal came from the Chief Scientific Division. It's the beginning of the end if financial matters are in the hands of scientists!

85. Why am I never asked by the Agric. and Veg. Returns people why I use so much labour on nothing? (I only grow mushrooms and they aren't mentioned on any form). I'll tell you why. Because I have some land, though it's only for home use. If I'd no land I wouldn't have to fill in the forms. Apparently no effort is made at all to collect returns of mushrooms grown. Mushroom production isn't wanted; labour is only wanted if you have land; if you haven't land, mushrooms presumably grow in the air without human aid. What a farce!

86. The English market must be a paradise for spawn makers. In this country we have gone over almost entirely to trays—more crops per year, more sq. ft. per crop, and how the spawn people must laugh! In America, I'm told, tray growers can be numbered on the fingers of one hand (no thumb mentioned), though admittedly they're *big* growers (and make their own spawn?). There is obviously every incentive for spawn makers here to produce a quick-growing spawn specially suitable for tray conditions and we poor old shelf anachronisms are being forced into line or out of business. Is it the same in America, or on the Continent? If no other spawn maker is interested I shall look to France for a supply that will give a long-enduring crop of good weight. We are in danger of forgetting that 4 lb. twice a year is better than 2 lb. four times. A good case could be made out for the proposition: "More speed—lower profits"—except of course for spawn makers.

87. It's only fair to put in a good word for spawn makers when circumstances permit. I must confess that the greater demand for spawn created by the introduction of trays does tend to keep them on their toes and I suppose they are doing some good work. Certainly this heavy demand is a good thing for Publicity and one must congratulate the makers on their very co-operative efforts in making the levy possible and in collecting it. In appreciation of their work I make the following suggestion (*a*) to increase their profits and (*b*) to increase Publicity funds. *Why not spawn at the rate of 1 carton to 10 sq. ft.?* You won't expect me to give other reasons for the suggestion, but they could be good ones.

88. One thing, among others, that worried my children throughout their school life was to answer the question, "What does your father do?" If they answered: "He's a mushroom grower," they were scornfully

asked: "Is that all he does? What else does he do for a living?" The question doesn't worry *me*, though I often meet it. By the time I've described in full what "all" implies, the questioner has had a change of mind, become bored, and withdrawn quietly and unobtrusively from the awful presence, later to be found, I'll be bound, extending his own working hours from five per day to five and a half.

89. I must report the biggest ever attack of cecids. Every mushroom in a large house was attacked at third flush and the crop necessarily abandoned. We have ample scope for entomological study on this farm and anyone interested should make the necessary arrangements to examine the problem on the spot. For our part, after extensive observations, theories, tests on controls, etc., we have to admit that only two definite facts emerge. Cecids are frighteningly paedogenetic, and they are moisture loving—living in water for up to a fortnight and quickly dying if left dry. They steadily refuse to reach the adult (fly) stage, even in the allegedly appropriate period around February. Worthing growers pray that they may never again see a fly (phorid), but we cecid larvae growers pray constantly for the emergence of a million flies (cecids), as only thus apparently can we kill off the pest. Any good insecticide will kill cecid flies in a matter of moments but nothing so far known will kill the larvae except in concentrations that also finish the mushrooms. It may be their ultimate control will lie in the elimination of their natural requirements, rather than in destruction by chemical or insecticidal means. It would certainly be the safer way but it might mean abandoning peat as a casing, for there seems to be a definite association between cecids and some of the conditions imposed by a peat casing.

90. Two Florida chemists, according to a newspaper report, are responsible for the statement that mushrooms can be grown cheaply and abundantly on sawdust with a little oatmeal added. Any tray grower wishing to experiment with the new cult of shelf growing might care to pulp his trays and try this promising idea.

91. Newspaper report again. "Mushrooms" are used in Mexican witch doctors' brews. These "mushrooms" can produce drunkenness comparable to alcohol, can cause highly coloured dreams, bring on madness, and if taken in large doses lead to death; under the narcotic effect of the brews Indian sorcerers claim they can foretell the future and find lost and stolen property.

92. As a possible measure against La France, Fusarium, Mummy, or whatever the brown-capped (bacterial?) trouble is on the place, we tried steam sterilizing peat. We hoped it might take care of cecids too, if these creatures came in with the peat. Neither trouble has been cured; we have both in the first flush!

93. Those who saw the Hawkomatic composting machine demonstration at Haddenham (Cambs.), on 20th March, were probably as interested in the compost they saw as in the one-man turning machine, fascinating though the latter was. Very finely *chaffed* straw, nicely heated and browned by Adco M, was handled by a *beet fork*, and was said to be capable at 6" deep of over 3 lb. per sq. ft. in 10 weeks cropping.

Crops were pest and disease free. It did seem as though compost and machine were inter-dependent. That kind of short chaff compost cried out for that kind of machine and *vice versa*. The machine was certainly a marvel with chaffed straw because after the chaff was cut ready in its dry state the machine took over the whole process of wetting, turning, Adco-M-ing, and all. Only one man was needed—to pour the dry chaff into the hopper and at subsequent turns to beet-fork the wetted and composting chaff into the hopper. We were told that 24 tons could be handled by one man in a day with this comparatively small and fairly inexpensive machine, but I took this with a pinch of salt—unless they meant that weight of the *wetted* compost. I understand a large version of the Hawkomatic is being designed, if not already being made, to cope with long stable manure and for agricultural composting. I dare say the outfit will distribute other activators besides Adco-M, but some may ask “Why bother about the others?” (This is not an advert, but I await cheques for £250—or the equivalent in kind—from each of the makers of Adco-M and Hawkomatic!)

94. One authority suggests that if composts are properly made (he gives details) there's no need to compost under cover. I am no authority, thank Heaven, but I suggest that composting in a *closed* shed, with complete freedom from winds, draughts, and rapid air movement might be a forward step in the direction of easier control. One of our compost sheds has now been completely walled in to test the theory.

95. One of the staff has just come up to the office for medical attention. He's been bitten by a mouse.

96. Crops from deep-winter composts have been poor, though there was one exception. I have a note that this exception had “long and strong” straw. It set me wondering about straw in general. The sort of stuff we get nowadays is mostly very weak and thin. I've heard of another grower who attributes a pretty heavy crop to strong wheat straw. There's some evidence to support a definite connection between straw quality and crop weight, and it might pay us to refuse all but the best.

97. If it's true, it's a bad thing in my view that officers of the N.A.A.S. are not allowed to advise anyone outside their own province or territory. This means that if an officer happens to have a special flair for a particular subject he cannot be consulted *directly* by a grower in another province. (That's the theory of it anyway.) In this way information and ideas must come to the grower second-hand, and worse still, the expert cannot have on-the-spot conversations with the grower, or personally make those detailed observations which he alone might be most capable of making. This indirect consultation, remote control as it were, is known as progress.

98. At the bar, after an open day session, a young fellow was seen dealing in a practised manner with a double whisky.

S.M.: Who's that young chap, F.C.?

F.C.A: I don't know, but he obviously has the makings of a good mushroom grower.

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January, 1956

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MGA PUBLICITY REPRESENTATIVES TO MEET WOMEN JOURNALISTS

The latest MGA effort in the publicity field was revealed by Mr. G. V. Allen at the meeting of the MGA Executive Committee in April when he stated that arrangements were nearly complete for the holding of a reception by the MGA at the Women's Press Club in London on 30th May.

Mr. Allen said the Publicity Sub-Committee felt that an all out effort should be made to interest women journalists in the mushroom industry and it was hoped that much good publicity for the cultivated mushroom would result. It was further hoped also that the MGA would be established as a reliable source of information on all matters concerning cultivated mushrooms.

The programme would include refreshments and a short talk by Mrs. Lawrence, wife of Capt. G. P. Lawrence, on the cultivated mushroom in general and with particular reference to the women's angle. Every effort would be made to extol the virtues of the mushroom. In addition to this talk members of the Publicity Committee would be present to give on the spot information and to answer any questions.

Mr. Allen said he felt that this was a publicity effort on the right lines and the results, if favourable, should spread over the whole of the British Isles.

As a follow up to this reception it was also proposed to invite women journalists to a tour of a well-known farm near London. It was agreed by his committee that such a visit could do much to stimulate interest in the cultivated mushroom and to acquaint writers with the ins and outs of mushroom cultivation. It was proposed to convey the party from London to the farm by coach.

The committee had authorised the production of special $\frac{1}{2}$ lb. presentation packs of mushrooms for distribution to the journalists at the reception. These packs were being designed by a well-known firm. "We have great hopes of this effort," said Mr. Allen, adding: "A lot of work is being put into it and it should result in the right kind of publicity."

MGA members are reminded that the Association is prepared, as far as funds permit, to give financial assistance with mushroom publicity displays at local shows. Publicity material such as recipe leaflets, strip posters, etc., will also be supplied free.

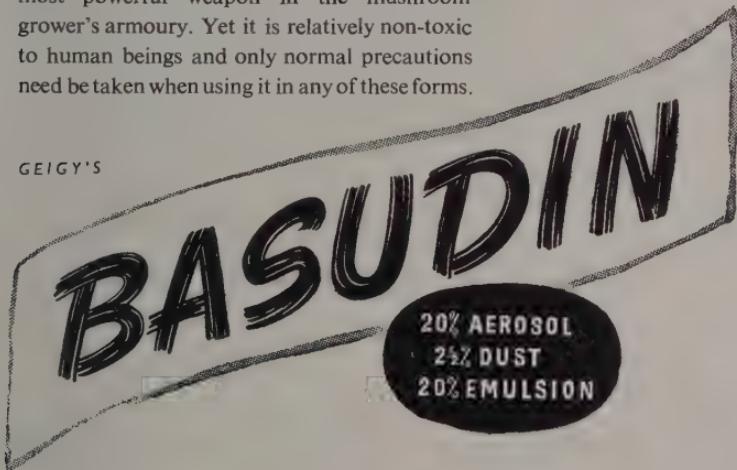
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CORRESPONDENCE

A GROWER'S NIGHTMARE

I dreamt that about 2 a.m. in the morning I went to the mushroom houses. There I saw two men standing outside the 1st house. I went into the 1st house, then the 2nd, the 3rd, and finally the 4th. In each one of them the 4' pipes had been hacked from the walls; not only that, they had the appearance of having been torn into small pieces, like paper and the pieces were littering the floors. Over the mushrooms were piles of sand and cement. I came out of the 4th house and said to one of the two men: "Why have you done this?" He replied: "You deserve it all."

Whilst I was conferring with Sgt. Churchyard, the village policeman, another man dashed up and said, "The houses are full of bees : I estimate there are 15,000 of them."

I at once felt impelled to calculate how many bees there were to the sq. ft. and found there were just under 4,000.

I awoke—even more tired than usual—and staggered to the mushroom houses. Neither the two men nor Sgt. Churchyard were to be seen. There was no sand or cement on the shelves : the 4' pipes looked as solid as ever. Could I hear a faint buzz? No, not more than one usually hears early in the morning.

I wondered if my dream was a sign, and that B stood for Burton, but I did not find 4,000 to the sq. ft.

B. G. BRITTON.

FROM DENMARK

I have just again fallen over the picture of Mr. Stanley Middlebrook in your January publication, and even if motoring is mentioned as one of his hobbies, I feel that this contribution ought to be added to the characteristics given in the presentation—possibly under "Pin-points."

Last year I had the pleasure to "invade" Mr. Middlebrook's farm (as stated by himself). After some discussion the inevitable drink was waiting some miles away—and indeed a very good one!

Starting his "Sun-ray" S.M. made some remarks to my hot-topped and double-carburetted 6 cylindered Citroën—and "took off."

Being alone and not knowing the way, I tried to follow the X-ray, the speedometer showing sometimes 90 miles an hour (and well over). Arriving at Monk Fryston Hall, I pulled the brakes of the "sour citrus" and put out flaps just behind S.M., who opened the door and said: "Excuse me, Sir, I just see I have been trotting about with my choke out!"

Isn't that Mr. Middlebrook himself?

Poul Nørgaard
(also called Mr. No-good by S.M.)

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CORRESPONDENCE

NOW YOU KNOW

In your innocence and the December issue, you suggest that the MRA "was badly conceived in that no plans were made for additional growing houses and staff to produce mushrooms commercially and thus provide much needed finance for research."

For the sake of the record, and in case others should hold a similar view or accept yours, I hope you will allow me to state the facts. They are, simply:

(a) Plans were made for just such a farm, but at the time no permits were obtainable for building mushroom houses, either for commercial or research ends.

(b) The purchase of an existing farm was then considered, but was abandoned because the price asked was considered at the time to be too high.

The first scheme could not be adopted in 1954. The rejection of the second scheme cost us our independent research station and a lot of money.

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RENEWED SUPPORT FOR

MGA PUBLICITY SCHEME

Both the Executive Committee and the Publicity Sub-Committee acknowledge with pleasure the following contributions to the Publicity Fund. All concerned on the MGA side of this effort are gratified at the fact that, in the case of many contributors, it is an expression of renewed support and confidence in the efforts being made by the Association to further publicise the cultivated mushroom.

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*The amounts collected by Spawn Merchants are not for publication

STILL INCREASING

Slowly but surely the number of Grower Members of the MGA who are contributing to the Publicity Scheme via the 2d. on each carton of spawn purchased, is increasing and the recent additions bring the total participating to no less than 88·8%.

Additional contributors since the last published list of names include:—

- R. G. Martland, Messrs. James Martland Ltd., Ormskirk, Lancs.
- H. L. Coulson, Messrs. Lindum Nurseries Ltd., Worthing, Sussex.
- Church Farm Nurseries Ltd. (A. DeB. Hovell), Rustington, Sussex.
- A. G. Leeney, Worthing Vineries Ltd., Worthing, Sussex.
- D. A. Sparkes, Esq., East Preston, Nr. Littlehampton, Sussex.
- A. G. Sparkes (Smugglers Farm) Ltd., East Preston, Sussex.
- H. Stead, Esq., Swithenbank, Rothwell, Leeds, Yorks.
- Dr. N. F. Winder, Thorner, Nr. Leeds, Yorks.
- Mrs. Joyce Stanford-Tuck, The Lynch, Eastry, Kent.
- B. J. Kemp, 37 Broadway, Peterborough, Northants.

INCREASE FROM EIRE—DECREASE FROM FRANCE

More imported cultivated mushrooms from Eire and less from France are shown in the 1955 import figures which have now become available.

The increase in mushrooms from the Irish Republic amounted to no less than 68,928 lb., representing £8,927, whilst the French figures show a drop of 12,096 lb. (£1,966). Thus the tendency for increased importations from Eire, apparent in 1953 (Bulletin No. 65), has continued whilst the importations from France have continued to decline. The Irish mushrooms averaged approximately 3/0½d. per lb., whilst those from France did slightly better at 3/3d. approximately. Details:—

**U.K. IMPORTS OF MUSHROOMS, 1955
CWT.**

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Irish Republic	485	523	572	743	524	630	657	505	541	498	585	709	6,972
France ..	25	25	25	26	20	21	19	19	23	22	28	23	276
Total Monthly	..	510	548	597	769	544	651	676	524	564	520	613	732
1954 ..	734	616	656	436	433	628	516	449	392	658	686	483	6,687
							£						
Irish Republic	7,803	9,003	10,321	13,524	9,623	11,799	11,419	7,750	8,683	7,646	10,042	11,922	119,535
France ..	532	469	460	413	362	395	354	310	370	414	511	437	5,027
Total Monthly	..	8,335	9,472	10,781	13,937	9,985	12,194	11,773	8,060	9,053	8,060	10,553	12,359
1954	12,743	9,983	11,605	7,612	7,565	10,725	9,113	8,222	7,189	12,476	12,101	8,267
													117,601

Irish Republic Averaged £17.14 per cwt., or 3/0½d. (approx.) per lb.

France Averaged £18.21 per cwt., or 3/3d. (approx.) per lb.

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SMALL ADVERTISEMENTS 3d. a word (continued from page 156)

J. E. R. SIMONS LTD. offer: Adco M, Baskets (Chip and Cardboard), Bleach (Calcium and Sodium Hypochlorite), Boxes (new purpose-made and once used fish), "Comporoto" Manure Turner, Tungstalite Electric Lamps, Fertilisers, Fibreglass, Fungicides (all types), Gypsum, Hose, Insecticides (all forms), MRA Activators, Paper, Peat, Roofing Felt, Rubber Bands, Santobrite (for dipping trays and timber), Smoke Generators (in all sizes), Spraying Equipment, Thermometers and many other lines. Let us know your requirements. Enquiries for mushroom growing and general horticultural equipment welcomed.

We advise on Culture, Packaging and Marketing. **J. E. R. SIMONS LTD., HARLOW, ESSEX.** Tel. POTTER STREET 65 & 222. Sole Distributors for MOUNT SPAWN—Moist, Dry, Granular and Grain.

PURE DRIED GROUND POULTRY MANURE. This pure, natural organic is regularly used by prominent mushroom growing firms. It represents an invaluable organic activator for stable manure. Finely and evenly ground, it is convenient and clean to handle and being packed in $\frac{1}{2}$ cwt. sacks, the weight you receive is guaranteed. Sample and prices (which vary according to the distance for carriage from our Works) on application. Sole Producers:—THE HAMPSHIRE GUANO CO. LTD., SOBERTON, SOUTHAMPTON. (Est. 1937). Manufacturers of "Gunos" (Regd.) Brand Fertilisers.

PORTABLE BOILERS for Peak Heating and/or Soil Sterilizing, with equipment to suit users. Reed Bros. (Engineering) Ltd., Cuba Street, Millwall, London, E.14. Telephone: East 4081.

CHALK AND CARBONATE OF LIME. Best quality Ground Chalk and Derbyshire Limestone supplied in bags; also broken chalk and limestone. DERBYSHIRE STONE LIMITED, Matlock. Telephone: 741.

BOILERS, Etc., FOR SALE. Gilled Steel Tubing, $2\frac{1}{2}$ " bore, large quantity. Also 4" C.I. Hotwater Piping. Vertical Steam Boiler 8' 6" \times 3' 6", 80-lb. pressure. Ideal Hotwater Unit Heater. Lister Petrol-driven pressure spray Unit. 600-gallon Fuel Oil Tanks. Good selection of Sectional Hotwater Boilers. A. H. KIMMINS & SONS LTD., Lyndhurst Road, Worthing.

FOR SALE: Large number Fish Boxes for mushroom growing—first-class condition—wire ties. London district. Offers to Box No. 5.

FOR NORTHERN MUSHROOM GROWERS. Save on carriage: Finest quality imported Sphagnum Peat: 20 bushel bales. Quotations and Samples on request. ELTONMOSS LTD., 8a James Street, Harrogate. 'Phone: 4554.

PURPOSE BUILT TRAY FARM of 14,000 sq. ft. for sale, in district convenient to rail and Dublin, and near manure, casing and fuel supplies, with ample non-union labour and no restrictions. Letting or mortgage may be considered.

MUSHROOM FARM for disposal, 11,000 square feet. 3,500 Trays, Pin-kerton Manure Turner. Ferguson Tractor with fork lift. Vertical steam boiler with pipes to pasteurising, spawning and all growing sheds. Alternative electrical heating system. The lease of an attractive six-roomed house, and two modernised cottages available. Apply: Sir Oliver Leese, Worfield Gardens, Bridgnorth, Shropshire.

FOR SALE, HUMBER HAWK, 1950 Green Saloon, sunshine roof; Export Model; one owner; new battery and tyres; recently overhauled; excellent condition; Price £385. Major A. L. A. DREDGE, Combe House, Sundridge, Kent. (Tel. Brasted 335).

A GROWER writes:

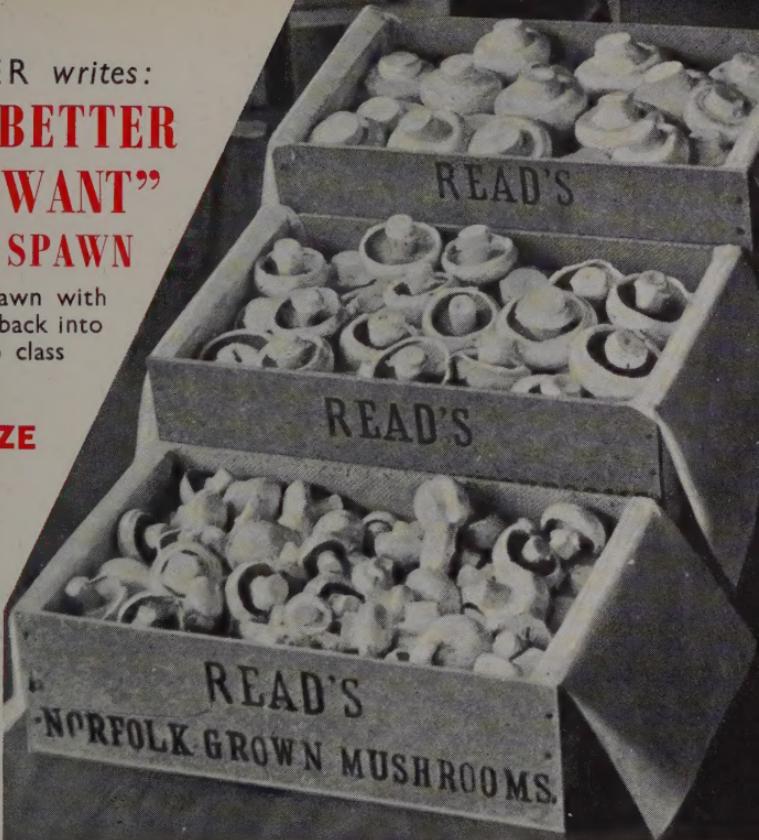
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